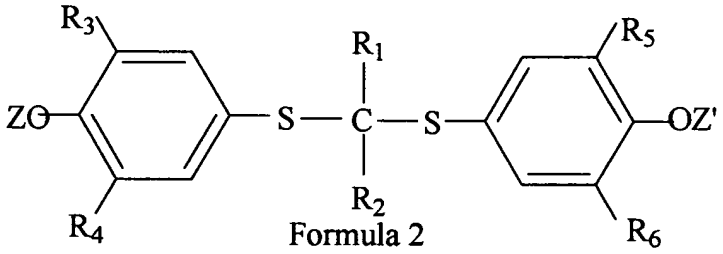
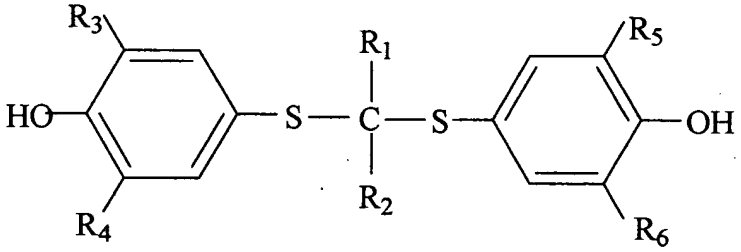
We claim:

1. In a process for the preparation of a water-soluble derivative of probucol having the following formula



Formula 2

where R_1 and R_2 are the same or different and are -C_1 - C_6 alkyl, -C_3 - C_6 alkenyl or aryl, R_3, R_4, R_5 and R_6 are the same or different and are C_1 - C_6 alkyl, Z and Z' are the same or different and are hydrogen or the group -C(O)-C_1 to C_6 - alkyl - C(O)OH where Z and Z' can not both be hydrogen by (1) the reaction of a probucol compound of the formula



where R_1, R_2, R_3, R_4, R_5 and R_6 are as previously defined with a compound selected from the group consisting alkali metal hydroxide, alkali metal alkoxide, alkyl ammonium alkoxide, alkyl ammonium hydroxide and mixtures thereof thereby forming an ammonium or alkali metal salt of said probucol compound (2) reacting said salt with a carboxylic acid anhydride to form a reaction mixture and (3) separating said water soluble probucol derivative from said reaction mixture the

improvement comprising using as a solvent for reaction step 1 a compound having the formula R - C (O) - R', where R and R' are the same or different and are C_1 to C_6 alkyl, C_2 to C_6 alkenyl, C_6 to C_{12} aryl, C_6 to C_{12} aryl substituted with at least one C_1 to C_6 alkyl, C_5 to C_{12} heteroaryl or C_5 to C_{12} heteroaryl substituted with at least one C_1 to C_6 alkyl

2. In the process according to claim 1 wherein R and R' are the same or different and are C_1 to C_6 alkyl.

3. In the process according to claim 2 wherein R and R' are methyl or ethyl.

4. In the process according to claim 3 wherein R and R' are methyl.

5. In the process according to claim 1 wherein the ratio of said solvent to the probucol derivative is from about 2:1 to about 1:5.

6. In the process according to claim 5 wherein the ratio is from about 1:1 to about 3:10.

7. In the process according to claim 6 wherein the ratio is 3:5.

8. In the process according to claim 1 the reaction temperature of step (a) is from about 15° to about 75°C.

9. In the process according to claim 8 wherein said reaction temperature is from about 30° to about 60°C.

10. In the process according to claim 9 wherein said reaction temperature is from about 35° to about 45°C.

11. In the process according to claim 1 wherein the pH of the reaction mixture formed in reaction step (2) is reduced to less than 7 and then an organic hydrocarbon solvent having the formula C_nH_{2n+2} where n is an integer from 5 to 12 is added to the reduced pH reaction mixture.

12. In the process according to claim 11 wherein the integer n of the hydrocarbon solvent is 6 to 9.

13. In the process according to claim 12 wherein the hydrocarbon solvent is hexane or heptane.

14. In the process according to claim 13 wherein the hydrocarbon solvent is admixed with the compounds of Formula 2 at temperatures >40°C but not above 150°C.

15. In the process according to claim 14 wherein the temperature is about 45° to about 75°C.